

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently Amended) A computerized system comprising:
a database server operable for receiving a query, the query including mode information designating a mode from multiple modes including a mode that specifies one or more table names, a mode that specifies an ordered list of one or more tables and a mode that explicitly defines a nesting of requested data and a naming of requested columns in a hierarchical data stream, where the mode information ~~a plurality of modes that~~ specifies, within the query itself, a hierarchical data stream organization, and generating a rowset in response to the query; and
a rowset processor, operable for receiving and processing the mode information of the query and the rowset, to generate a data stream organized according to the hierarchical data stream organization specified by the mode information.
2. (Canceled).
3. (Canceled).
4. (Canceled).
5. (Canceled).
6. (Canceled).
7. (Canceled).
8. (Canceled).

9. (Currently Amended) A computerized system comprising:

a database server operable for receiving a structured query language (SQL) query, the query including mode information designating a mode from multiple modes including a mode that specifies one or more table names, a mode that specifies an ordered list of one or more tables and a mode that explicitly defines a nesting of requested data and a naming of requested columns in a hierarchical data stream, where the mode information ~~a plurality of modes that~~ specifies, within the query itself, a hierarchical data stream organization, and generating a rowset in response to the query; and

a rowset processor, operable for receiving and processing the mode information of the query and the rowset, to generate a data stream organized according to the hierarchical data stream organization specified by the mode information.

10. (Original) The computerized system of claim 9, further comprising:

a client coupled to the rowset processor, the client is capable of receiving the hierarchical data stream.

11. (Currently Amended) A computerized system comprising:

a database server operable for receiving a query, the query including mode information designating a mode from multiple modes including a mode that specifies one or more table names, a mode that specifies an ordered list of one or more tables and a mode that explicitly defines a nesting of requested data and a naming of requested columns in a hierarchical data stream, where the mode information ~~a plurality of modes that~~ specifies, within the query itself, an extensible Markup Language (XML) data stream-organization, and generating a rowset in response to the query; and

a rowset processor, operable for receiving and processing-the mode information of the query and the rowset, to generate a data stream organized according to the XML data stream organization specified by the mode information.

12. (Original) The computerized system of claim 11, further comprising:

a client capable of providing the query to the database server and receiving the XML data stream from the rowset processor.

13. (Currently Amended) A computerized system for generating an XML data stream from a nested query, the computerized system comprising:

a database server operable for receiving the nested query including information defining the XML data stream, the nested query specifying a mode from a plurality of modes for organizing information, including a mode specifying an XML data stream organization with primary-foreign key information included in the nested query and a mode defining the XML data stream organization with the ordering of a number of tables included in the nested query, and generating a rowset in response to the query; and

a rowset processor operable for receiving and processing the nested query and the rowset to generate the XML data stream organized according to the specified mode.

14. (Canceled).

15. (Canceled).

16. (Canceled).

17. (Canceled).

18. (Canceled).

19. (Canceled).

20. (Canceled).

21. (Canceled).

22. (Canceled).

23. (Canceled).

24. (Canceled).

25. (Canceled).

26. (Currently Amended) A method of generating an XML data stream from a query, the method comprising:

- forming the query, the query including mode information designating a mode from a plurality of modes defining the XML data stream;
- transmitting the query to a database server to generate a rowset;
- extracting the mode information from the query;
- utilizing the mode information in transforming the rowset into an XML element including mapping each non-null column value of the rowset to an attribute of the XML element; and
- returning the XML element in the XML data stream organized according to the specified mode.

27. (Canceled).

28. (Currently Amended) A method of generating an XML data stream from a query, the method comprising:

- creating a query, the query including mode information designating a mode from a plurality of modes that specifies, within the query itself, an extensible Markup Language (XML) data stream organization by a primary-foreign key relationship;
- transmitting the query to a database server to generate a rowset;
- transforming the rowset into a nested XML tree by using the primary-foreign key relationship to determine nesting in the nested XML tree including ordering tables in the query to produce an organization of the XML data stream for a one to many relationship or forming a nesting schema from the nested XML tree and utilizing the nesting schema to transform the rowset into a nested XML tree; and
- processing the nested XML tree to return the XML data stream, organized according to the determined nesting in response to the query including representing each table listed in the query that has at least one column in a query result as an XML element.

29. (Canceled).
30. (Canceled).
31. (Canceled).
32. (Currently Amended) A method of generating an XML data stream from a query having a table ordering, the method comprising:
- forming a query identifying a mode from a set of rowset transformation modes that specify how at least one rowset is to be transformed based on the query and having a number of tables included in the query that define the XML data stream;
 - transmitting the query to a database server to generate a rowset; and
 - transforming the rowset into the XML data stream in response to the query based on the mode identified in the query including forming a nesting schema from the number of tables included in the query and utilizing the nesting schema to transform the rowset into the XML data stream, the data stream organized according to the order of the tables in the query.
33. (Canceled).
34. (Currently Amended) A tangibly embodied computer-readable medium having computer-executable instructions for performing operations comprising:
- forming a query in which an XML data stream has an organizational structure defined by a mode of a plurality of pre-defined modes in the query;
 - transmitting the query to a database server to generate a rowset; and
 - processing the rowset to produce the XML data stream in response to the query including transforming the rowset into a universal table including executing a union over all selections in the query and processing the universal table to produce the XML data stream, wherein the XML data stream is organized according to the organization structure defined by the mode.
35. (Canceled).

36. (Canceled).

37. (Canceled).

38. (Canceled).

39. (Canceled).

40. (Canceled).

41. (Canceled).

42. (New) A computerized system comprising:

a parser operable for receiving a query for data to a database and parsing the query, the query including mode information designating a mode from a plurality of modes that specifies, within the query itself, a hierarchical data stream organization for an output of the query, wherein the parser extracts the mode information from the query during parsing, and wherein the mode information includes at least one table name, an ordered list of at least one table or an explicit definition of a nesting of requested data and a naming of requested columns in a hierarchical data stream;

a query processor for processing the query to generate at least one rowset based on the query without reference to the mode information extracted during parsing;

a rowset to hierarchical representation processor that processes the mode information extracted from the query to set the mode for rowset processing, and the at least one rowset, to generate a data stream organized according to the hierarchical data stream organization specified by the mode information.